

An Analysis of Surveys Regarding Absentee Ballots Across Several States

William M. Briggs

November 23, 2020

1 Summary

Survey data was collected from individuals in several states, sampling those who the states listed as not returning absentee ballots. The data was provided by Matt Braynard.

The survey asked respondents whether they (a) had ever requested an absentee ballot, and, if so, (b) whether they had in fact returned this ballot. From this sample I produce predictions of the total numbers of: **Error #1**, those who were recorded as receiving absentee ballots *without* requesting them; and **Error #2**, those who returned absentee ballots but whose votes went missing (i.e. marked as unreturned).

The sizes of both errors were large in each state. The states were Georgia, Michigan, Wisconsin, and Arizona where ballots were across parties. Pennsylvania data was for Republicans only.

2 Analysis Description

Each analysis was carried out separately for each state. The analysis used (a) the number of absentee ballots recorded as unreturned, (b) the total responding to the survey, (c) the total of those saying they did not request a ballot, (d) the total of those saying they did request a ballot, and of these (e) the number saying they returned their ballots. I assume survey respondents are representative and the data is accurate.

From these data a simple parameter-free predictive model was used to calculate the probability of all possible outcomes. Pictures of these probabilities were derived, and the 95% prediction interval of the relevant numbers was calculated. The pictures appear in the Appendix at the end. They are summarized here with their 95% prediction intervals.

Error #1: being recorded as sent an absentee ballot without requesting one.

Error #2: sending back an absentee ballot and having it recorded as not returned.

State	Unreturned ballots	Error #1	Error #2
Georgia	138,029	16,938–22,771	31,559–38,866
Michigan	139,190	29,611–36,529	27,928–34,710
Pennsylvania*	165,412	32,414–37,444	26,954–31,643
Wisconsin	96,771	16,316–19,273	13,991–16,757
Arizona	518,560	208,333–229,937	78,714–94,975

*Number for Pennsylvania represent Republican ballots only.

Ballots that were not requested, and ballots returned and marked as not returned were classed as *troublesome*. The estimated average number of troublesome ballots for each state were then calculated using the table above and are presented next.

State	Unreturned ballots	Estimated average troublesome ballots	Percent
Georgia	138,029	53,489	39%
Michigan	139,190	62,517	45%
Pennsylvania*	165,412	61,780	37%
Wisconsin	96,771	29,594	31%
Arizona	518,560	303,305	58%

*Number for Pennsylvania represent Republican ballots only.

3 Conclusion

There are clearly a large number of troublesome ballots in each state investigated. Ballots marked as not returned that were never requested are clearly an error of some kind. The error is not small as a percent of the total recorded unreturned ballots.

Ballots sent back and unrecorded is a separate error. These represent votes that have gone missing, a serious mistake. The number of these missing ballots is also large in each state.

Survey respondents were not asked if they received an unrequested ballot whether they sent these ballots back. This is clearly a lively possibility, and represents a third possible source of error, including the potential of voting twice (once by absentee and once at the polls). No estimates or likelihood can be calculated for this potential error due to absence of data.

4 Declaration of William M. Briggs, PhD

1. My name is William M. Briggs. I am over 18 years of age and am competent to testify in this action. All of the facts stated herein are true and based on my personal knowledge.
2. I received a Ph.D of Statistics from Cornell University in 2004.
3. I am currently a statistical consultant. I make this declaration in my personal capacity.
4. I have analyzed data regarding responses to questions relating to mail ballot requests, returns and related issues.
5. I attest to a reasonable degree of professional certainty that the resulting analysis are accurate.

I declare under the penalty of perjury that the foregoing is true and correct.



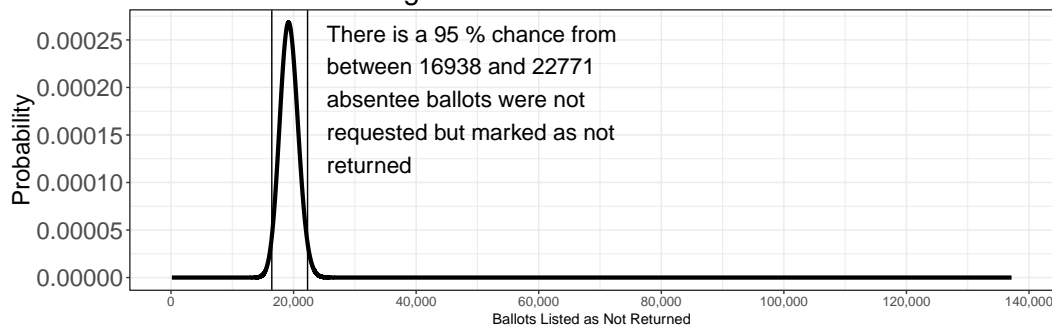
23 November 2020

William M. Briggs

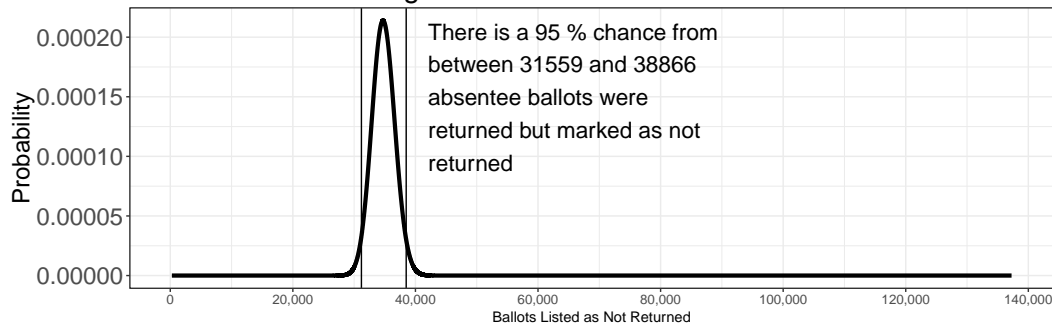
5 Appendix

The probability pictures for each state for each outcome as mentioned above.

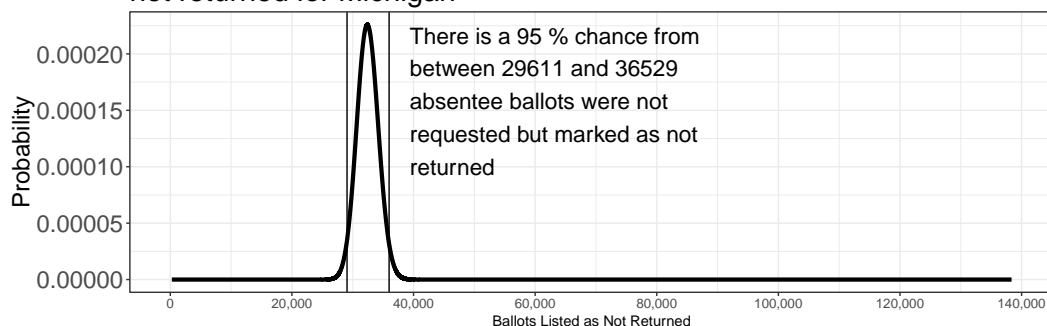
Probability of numbers of un-requested absentee ballots listed as not returned for Georgia



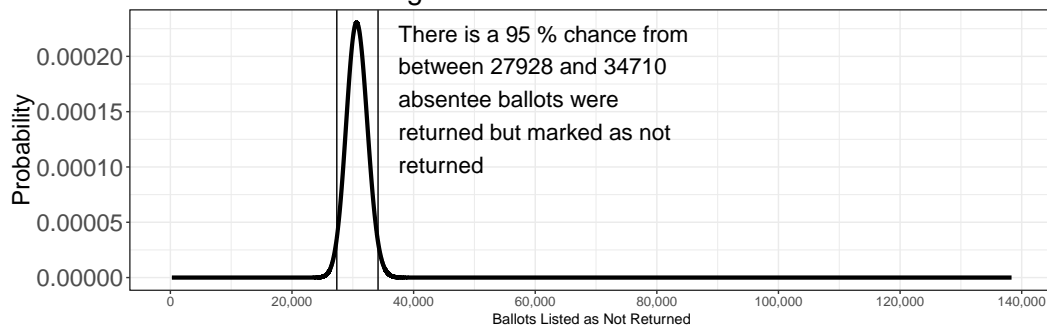
Probability of numbers of absentee ballots returned but listed as not returned for Georgia



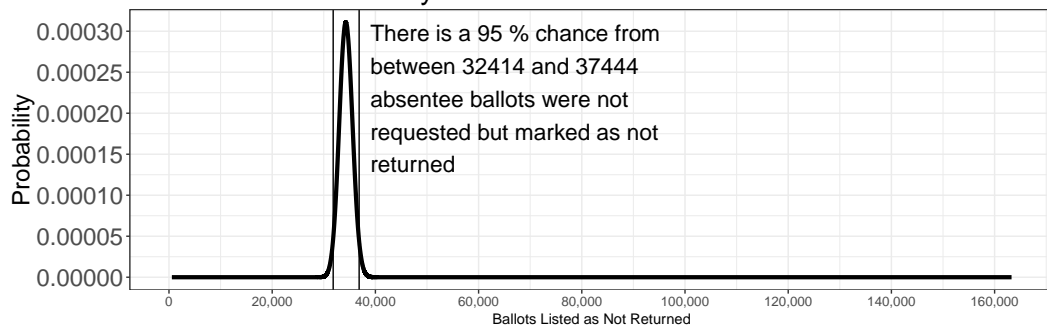
Probability of numbers of un-requested absentee ballots listed as not returned for Michigan



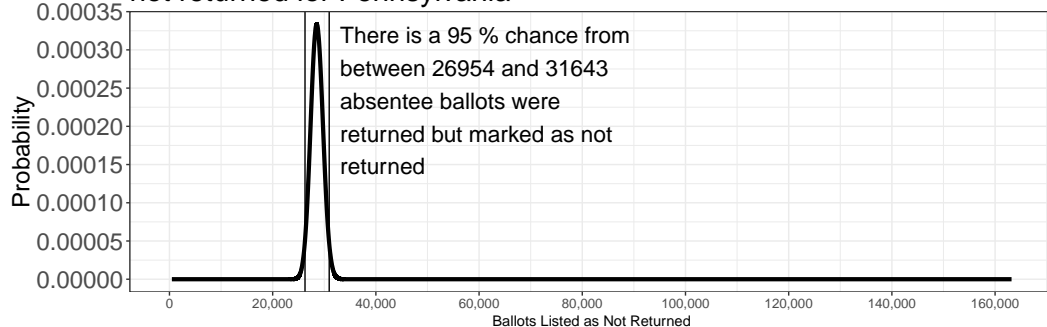
Probability of numbers of absentee ballots returned but listed as not returned for Michigan



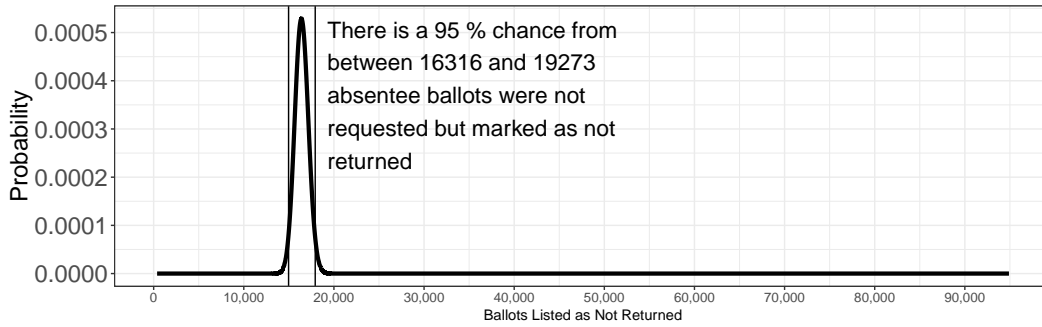
Probability of numbers of un-requested absentee ballots listed as not returned for Pennsylvania



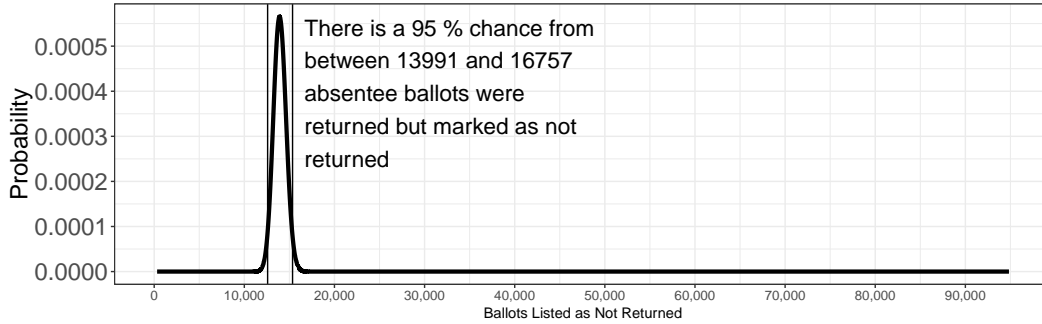
Probability of numbers of absentee ballots returned but listed as not returned for Pennsylvania



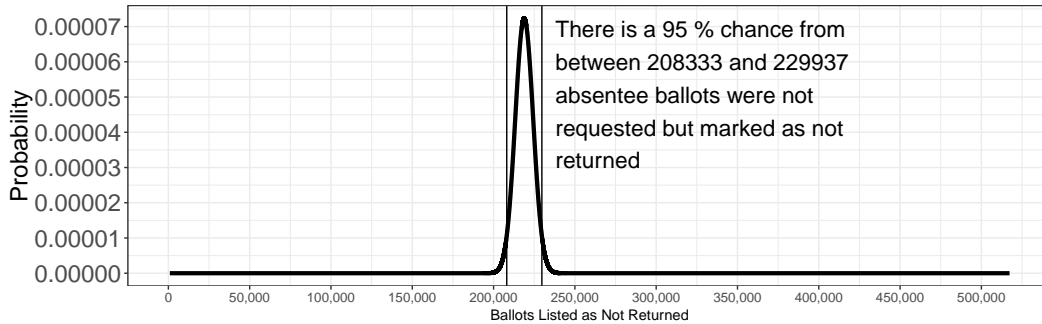
Probability of numbers of un-requested absentee ballots listed as not returned for Wisconsin



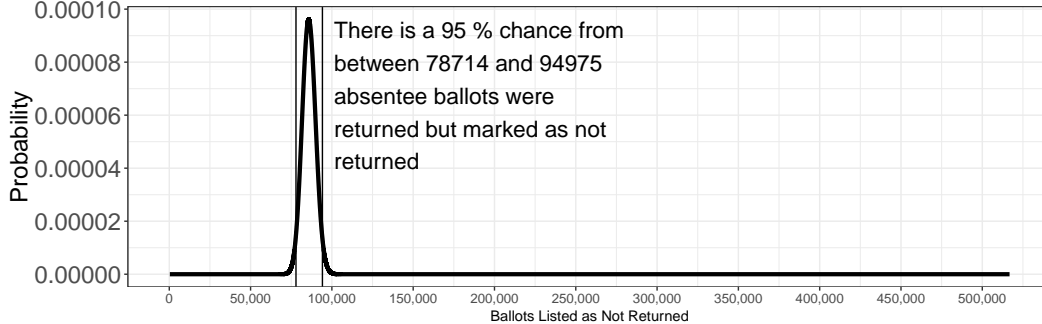
Probability of numbers of absentee ballots returned but listed as not returned for Wisconsin



Probability of numbers of un-requested absentee ballots listed as not returned for Arizona



Probability of numbers of absentee ballots returned but listed as not returned for Arizona



WI Unreturned Live Agent - Mass Markets

			11/15/2020	11/16/2020	11/17/2020
4,614	Completes		-	3,483	1,131
433	Completed survey** - Q4=0	1-Completed Survey	-	300	133
1,053	VM Message Left	2-Message Delivered VM	-	804	249
3,128	Refused/Early Hang up/RC	3-Refused	-	2,379	749
50,712	No Answer	4-No Answer	-	40,391	10,321
1,944	Bad/Wrong Numbers/Lang	5-Bad Number	-	1,289	655
100.00%	List Penetration				
57,271	Data Loads				

Q1 - May I please speak to <lead on screen>?		Response	11/15/2020	11/16/2020	11/17/2020
2,261	64.69%	A-Reached Target + B-What Is This About? / Uncertain	-	1,343	475
1,677	47.98%	X = Refused	-	1,202	475
0	0.00%				
3,495	100.00%	Sum of All Responses	-	2,545	950

Q2 - Did you request Absentee Ballot in state of WI?		Response	11/15/2020	11/16/2020	11/17/2020
1,699	62.39%	A-Yes [Go to Q3]	-	1,374	325

379	13.92%	B-No [Go to Q4]	-	240	139
32	1.18%	C-Yes (per Spouse/family Member) [Go to Q3]	-	16	16
4	0.15%	D-No (per Spouse/family Member) [Go to Q4]	-	-	4
44	1.62%	E-Unsure [Go to Close A]	-	25	19
4	0.15%	F-Not Available At The Moment [Go to Close A]	-	2	2
561	20.60%	X = Refused	-	405	156
2,723	100.00%	Sum of All Responses	-	2,062	661

Q3 - Did you mail your ballot back?		Response	11/15/2020	11/16/2020	11/17/2020
316	14.67%	A-Yes [Go to Q4]	-	238	78
1,286	59.70%	B-No [Go to Close A]	-	1,069	217
9	0.42%	C-Yes (per Spouse/family Member) [Go to Q4]	-	4	5
15	0.70%	D-No (per Spouse/family Member) [Go to Close A]	-	8	7
28	1.30%	E-Unsure / Refused [Go to Close A]	-	24	4
500	23.21%	X = Refused	-	314	186
			-		
2,154	100.00%	Sum of All Responses	-	1,657	497

Q4 - Can you please give us the best phone number to reach you at?		Response	11/15/2020	11/16/2020	11/17/2020
432	80.00%	A-Yes (Capture Number) [Go to Q5]	-	300	132
108	20.00%	B-Refused [Go to Q5]	-	77	31
0	0.00%				
0	0.00%				
540	100.00%	Sum of All Responses	-	377	163

Q5 - Can you provide us your email address?		Response	11/15/2020	11/16/2020	11/17/2020
50	11.55%	01-Yes [Go to Close B]	-	37	13
383	88.45%	02-No [Go to Close B]	-	263	120
0	0.00%				
433	100.00%	Sum of All Responses	-	300	133



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Statistician to the Stars!

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1. EXPERIENCE

- (1) 2016: AUTHOR OF *Uncertainty: The Soul of Modeling, Probability & Statistics*, a book which argues for a complete and fundamental change in the philosophy and practice of probability and statistics. Eliminate hypothesis testing and estimation, and move to verifiable predictions. This includes AI and machine learning. Call this The Great Reset, but a good one.
- (2) 2004-2016 ADJUNCT PROFESSOR OF STATISTICAL SCIENCE, CORNELL UNIVERSITY, ITHACA, NEW YORK
I taught a yearly Masters course to people who (rightfully) hate statistics. Interests: philosophy of science & probability, epistemology, epidemiology (ask me about the all-too-common epidemiologist fallacy), Bayesian statistics, medicine, climatology & meteorology, goodness of forecasts, over-confidence in science; public understanding of science, limitations of science, scientism; scholastic metaphysics (as it relates to epistemology).
- (3) 1998-PRESENT. STATISTICAL CONSULTANT, VARIOUS COMPANIES
Most of my time is spent coaxing people out of their money to tell them they are too sure of themselves. All manner of analyses cheerfully undertaken. Example: Fraud analysis; I created the *Wall Street Journal's* College Rankings. I consultant regularly at Methodist and other hospitals, start-ups, start-downs, and with any institution willing to fork it over.
- (4) 2003-2010. RESEARCH SCIENTIST, NEW YORK METHODIST HOSPITAL, NEW YORK
Besides the usual, I sit/sat on the Institutional Review Committee to assess the statistics of proposed research. I was an Associate Editor for *Monthly Weather Review* (through 2011). Also a member of the American Meteorological Society's Probability and Statistics Committee (through 2011). At a hospital? Yes, sir; at a hospital. It rains there, too, you know.
- (5) FALL 2007, FALL 2010 VISITING PROFESSOR OF STATISTICS, DEPARTMENT OF MATHEMATICS, CENTRAL MICHIGAN UNIVERSITY, MT. PLEASANT, MI
Who doesn't love a visit from a statistician? Ask me about the difference between "a degree" and "an education."
- (6) 2003-2007, ASSISTANT PROFESSOR STATISTICS, WEILL MEDICAL COLLEGE OF CORNELL UNIVERSITY, NEW YORK, NEW YORK
Working here gave me a sincere appreciation of the influences of government money; grants galore.
- (7) 2002-2003. GOTHAM RISK MANAGEMENT, NEW YORK
A start-up then, after Enron's shenanigans, a start-down. We set future weather derivative and weather insurance contract prices that incorporated information from medium- and long-range weather and climate forecasts.
- (8) 1998-2002. DOUBLECLICK, NEW YORK
Lead statistician. Lot of computer this and thats; enormous datasets.
- (9) 1993-1998. GRADUATE STUDENT, CORNELL UNIVERSITY

Meteorology, applied climatology, and finally statistics. Was Vice Chair of the graduate student government; probably elected thanks to a miracle.

- (10) 1992-1993. NATIONAL WEATHER SERVICE, SAULT STE. MARIE, MI
Forecast storms o' the day and launched enormous balloons in the name of Science. My proudest moment came when I was able to convince an ancient IBM-AT machine to talk to an *analog*, 110 baud, phone-coupled modem, all using BASIC!
- (11) 1989-1992. UNDERGRADUATE STUDENT, CENTRAL MICHIGAN UNIVERSITY
Meteorology and mathematics. Started the local student meteorology group to chase tornadoes. Who knew Michigan had so few? Spent a summer at U Michigan playing with a (science-fiction-sounding) lidar.
- (12) 1983-1989. UNITED STATES AIR FORCE
Cryptography and other secret stuff. Shot things; learned pinochle. I adopted and became proficient with a fascinating and versatile vocabulary. Irritate me for examples. TS/SCI, etc. security clearance (now inactive).

2. EDUCATION

- (1) Ph.D., 2004, Cornell University. Statistics.
- (2) M.S., 1995, Cornell University. Atmospheric Science.
- (3) B.S., Summa Cum Laude, 1992, Central Michigan University. Meteorology and Math.

3. PUBLICATIONS

3.0.1. *Popular.*

- (1) Op-eds in various newspapers; articles in *Stream*, *Crisis Magazine*, *The Remnant*, *Quadrant*, *Quirks*; blog with ~70,000 monthly readers. Various briefs submitted to government agencies, such as California Air Resources Board, Illinois Department of Natural Resources. Talks and holding-forths of all kinds.

3.0.2. *Books.*

- (1) Richards, JW, WM Briggs, and D Axe, 2020. *UThe Price of Panic: How the Tyranny of Experts Turned a Pandemic into a Catastrophe*. Regnery. Professors Jay Richards, William Briggs, and Douglas Axe take a deep dive into the crucial questions on the minds of millions of Americans during one of the most jarring and unprecedented global events in a generation.
- (2) Briggs, WM., 2016. *Uncertainty: The Soul of Modeling, Probability & Statistics*. Springer. Philosophy of probability and statistics. A new (old) way to view and to use statistics, a way that doesn't lead to heartbreak and pandemic over-certainty, like current methods do.
- (3) Briggs, WM., 2008 *Breaking the Law of Averages: Real Life Probability and Statistics in Plain English*. Lulu Press, New York. Free text for undergraduates.
- (4) Briggs, WM., 2006 *So You Think You're Psychic?* Lulu Press, New York. Hint: I'll bet you're not.

3.0.3. *Methods.*

- (1) Briggs, WM and J.C. Hanekamp, 2020. Uncertainty In The MAN Data Calibration & Trend Estimates. *Atmospheric Environment*, In review.
- (2) Briggs, WM and J.C. Hanekamp, 2020. Adjustments to the Ryden & McNeil Ammonia Flux Model. *Soil Use and Management*, In review.
- (3) Briggs, William M., 2020. Parameter-Centric Analysis Grossly Exaggerates Certainty. In *Data Science for Financial Econometrics*, V Kreinovich, NN Thach, ND Trung, DV Thanh (eds.), In press.
- (4) Briggs, WM, HT Nguyen, D Trafimow, 2019. Don't Test, Decide. In *Behavioral Predictive Modeling in Econometrics*, Springer, V Kreinovich, S Sriboonchitta (eds.). In press.
- (5) Briggs, William M. and HT Nguyen, 2019. Clarifying ASA's view on p-values in hypothesis testing. *Asian Journal of Business and Economics*, 03(02), 1–16.
- (6) Briggs, William M., 2019. Reality-Based Probability & Statistics: Solving The Evidential Crisis (invited paper). *Asian Journal of Business and Economics*, 03(01), 37–80.
- (7) Briggs, William M., 2019. Everything Wrong with P-Values Under One Roof. In *Beyond Traditional Probabilistic Methods in Economics*, V Kreinovich, NN Thach, ND Trung, DV Thanh (eds.), pp 22–44.
- (8) Briggs, WM, HT Nguyen, D Trafimow, 2019. The Replacement for Hypothesis Testing. In *Structural Changes and Their Econometric Modeling*, Springer, V Kreinovich, S Sriboonchitta (eds.), pp 3–17.
- (9) Trafimow, D, V Amrhein, CN Areshenkoff, C Barrera-Causil, ..., WM Briggs, (45 others), 2018. Manipulating the alpha level cannot cure significance testing. *Frontiers in Psychology*, 9, 699. doi.org/10.3389/fpsyg.2018.00699.
- (10) Briggs, WM, 2018. Testing, Prediction, and Cause in Econometric Models. In *Econometrics for Financial Applications*, ed. Anh, Dong, Kreinovich, and Thach. Springer, New York, pp 3–19.
- (11) Briggs, WM, 2017. The Substitute for p-Values. *JASA*, 112, 897–898.
- (12) J.C. Hanekamp, M. Crok, M. Briggs, 2017. Ammoniak in Nederland. *Enkele kritische wetenschappelijke kanttekeningen*. V-focus, Wageningen.
- (13) Briggs, WM, 2017. Math: Old, New, and Equalitarian. *Academic Questions*, 30(4), 508–513.
- (14) Monckton, C, W Soon, D Legates, ... (several others), WM Briggs 2018. On an error in applying feedback theory to climate. In submission (currently *J. Climate*).
- (15) Briggs, WM, JC Hanekamp, M Crok, 2017. Comment on Goedhart and Huijsmans. *Soil Use and Management*, 33(4), 603–604.
- (16) Briggs, WM, JC Hanekamp, M Crok, 2017. Response to van Pul, van Zanten and Wichink Kruit. *Soil Use and Management*, 33(4), 609–610.
- (17) Jaap C. Hanekamp, William M. Briggs, and Marcel Crock, 2016. A volatile discourse - reviewing aspects of ammonia emissions, models, and atmospheric concentrations in The Netherlands. *Soil Use and Management*, 33(2), 276–287.

- (18) Christopher Monckton of Brenchley, Willie Soon, David Legates, William Briggs, 2015. Keeping it simple: the value of an irreducibly simple climate model. *Science Bulletin*. August 2015, Volume 60, Issue 15, pp 1378–1390.
- (19) Briggs, WM, 2015. The Third Way Of Probability & Statistics: Beyond Testing and Estimation To Importance, Relevance, and Skill. *arxiv.org/abs/1508.02384*.
- (20) Briggs, WM, 2015. The Crisis Of Evidence: Why Probability And Statistics Cannot Discover Cause. *arxiv.org/abs/1507.07244*.
- (21) David R. Legates, Willie Soon, William M. Briggs, Christopher Monckton of Brenchley, 2015. Climate Consensus and ‘Misinformation’: A Rejoinder to Agnotology, Scientific Consensus, and the Teaching and Learning of Climate Change. *Science and Education*, 24, 299–318, DOI 10.1007/s11191-013-9647-9.
- (22) Briggs, WM, 2014. The Problem Of Grue Isn’t. *arxiv.org/abs/1501.03811*.
- (23) Christopher Monckton of Brenchley, Willie Soon, David Legates, William Briggs, 2014. Why models run hot: results from an irreducibly simple climate model. *Science Bulletin*. January 2015, Volume 60, Issue 1, pp 122-135.
- (24) Briggs, WM, 2014. Common Statistical Fallacies. *Journal of American Physicians and Surgeons*, Volume 19 Number 2, 58–60.
- (25) Aalt Bast, William M. Briggs, Edward J. Calabrese, Michael F. Fenech, Jaap C. Hanekamp, Robert Heaney, Ger Rijkers, Bert Schwitters, Pieter Verhoeven, 2013. Scientism, Legalism and Precaution—Contending with Regulating Nutrition and Health Claims in Europe. *European Food and Feed Law Review*, 6, 401–409.
- (26) Legates, DR, Soon, W, and Briggs, 2013. Learning and Teaching Climate Science: The Perils of Consensus Knowledge Using Agnotology. *Science and Education*, DOI 10.1007/s11191-013-9588-3.
- (27) Briggs, WM, 2012. On Probability Leakage. *arxiv.org/abs/1201.3611*.
- (28) Briggs, WM, 2012. Why do statisticians answer questions no one ever asks? *Significance*. Volume 9 Issue 1 Doi: 10.1111/j.1740-9713.2012.00542.x. 30–31.
- (29) Briggs, WM, Soon, W, Legates, D, Carter, R, 2011. A Vaccine Against Arrogance. *Water, Air, & Soil Pollution: Volume 220, Issue 1 (2011)*, Page 5-6
- (30) Briggs, WM, and R Zaretski, 2009. Induction and falsifiability in statistics. *arxiv.org/abs/math/0610859*.
- (31) Briggs, WM, 2011. Discussion to A Gelman. Why Tables are Really Much Better than Graphs. *Journal Computational and Graphical Statistics*. Volume 20, 16–17.
- (32) Zaretski R, Gilchrist MA, Briggs WM, and Armagan A, 2010. Bias correction and Bayesian analysis of aggregate counts in SAGE libraries. *BMC Bioinformatics*, 11:72doi:10.1186/1471-2105-11-72.
- (33) Zaretski, R, Briggs, W, Shankar, M, Sterling, M, 2009. Fitting distributions of large scale power outages: extreme values and the effect of truncation. *International Journal of Power and Energy Systems*. DOI: 10.2316/Journal.203.2009.1.203-4374.

- (34) Briggs, WM, 2007. Changes in number and intensity of world-wide tropical cyclones *arxiv.org/physics/0702131*.
- (35) Briggs, WM, 2007. On the non-arbitrary assignment of equi-probable priors *arxiv.org/math.ST/0701331*.
- (36) Briggs, WM, 2007. On the changes in number and intensity of North Atlantic tropical cyclones *Journal of Climate*. **21**, 1387-1482.
- (37) Briggs, WM, Positive evidence for non-arbitrary assignments of probability, 2007. Edited by Knuth et al. Proceedings 27th International Workshop on Bayesian Inference and Maximum Entropy Methods in Science and Engineering. American Institute of Physics. 101-108.
- (38) Briggs, WM, R Zaretzki, 2007. The Skill Plot: a graphical technique for the evaluating the predictive usefulness of continuous diagnostic tests. *With Discussion. Biometrics*. **64(1)**, 250-6; discussion 256-61. PMID: 18304288.
- (39) Zaretzki R, Gilchrist MA, Briggs WM, 2010. MCMC Inference for a Model with Sampling Bias: An Illustration using SAGE data. *arxiv.org/abs/0711.3765*
- (40) Briggs, WM, and D Ruppert, 2006. Assessing the skill of yes/no forecasts for Markov observations. *Monthly Weather Review*. **134**, 2601-2611.
- (41) Briggs, WM, 2007. Review of *Statistical Methods in the Atmospheric Sciences* (second edition, 2006) by Wilks, D.S. *Journal of the American Statistical Association*, **102**, 380.
- (42) Briggs, WM, M Pocernich, and D Ruppert, 2005. Incorporating misclassification error in skill assessment. *Monthly Weather Review*, **133(11)**, 3382-3392.
- (43) Briggs, WM, 2005. A general method of incorporating forecast cost and loss in value scores. *Monthly Weather Review*, **133(11)**, 3393-3397.
- (44) Briggs, WM, and D Ruppert, 2005. Assessing the skill of Yes/No Predictions. *Biometrics*. **61(3)**, 799-807. PMID: 16135031.
- (45) Briggs, WM, 2004. Discussion to T Gneiting, LI Stanberry, EP Gritmit, L Held, NA Johnson, 2008. Assessing probabilistic forecasts of multivariate quantities, with an application to ensemble predictions of surface winds. *Test*. **17**, 240-242.
- (46) Briggs, WM, 2004. Discussion to Gel, Y, AE Raftery, T Gneiting, and V.J. Berrocal, 2004. Calibrated Probabilistic Mesoscale Weather Field Forecasting: The Geostatistical Output Perturbation (GOP) Method. *J. American Statistical Association*. **99 (467)**: 586-587.
- (47) Mozer, JB, and Briggs, WM, 2003. Skill in real-time solar wind shock forecasts. *J. Geophysical Research: Space Physics*, **108 (A6)**, SSH 9 p. 1-9, (DOI 10.1029/2003JA009827).
- (48) Briggs, WM, 1999. Review of *Forecasting: Methods and Applications* (third edition, 1998) by Makridakis, Wheelwright, and Hyndman; and *Elements of Forecasting* (first edition, 1998) by Diebold. *Journal of the American Statistical Association*, **94**, 345-346.
- (49) Briggs, W.M., and R.A. Levine, 1997. Wavelets and Field Forecast Verification. *Monthly Weather Review*, **25 (6)**, 1329-1341.
- (50) Briggs, WM, and DS Wilks, 1996. Estimating monthly and seasonal distributions of temperature and precipitation using the new CPC long-range forecasts. *Journal of Climate*, **9**, 818-826.

- (51) Briggs, WM, and DS Wilks, 1996. Extension of the CPC long-lead temperature and precipitation outlooks to general weather statistics. *Journal of Climate*, **9**, 3496-3504.

3.0.4. Applications.

- (1) Jamorabo, Daniel, Renelus, Benjamin, Briggs, WM, 2019. "Comparative outcomes of EUS-guided cystogastrostomy for peripancreatic fluid collections (PFCs): A systematic review and meta-analysis, 2019. *Therapeutic Advances in Gastrointestinal Endoscopy*, in press.
- (2) Benjamin Renelus, S Paul, S Peterson, N Dave, D amorabo, W Briggs, P Kancharla, 2019. Racial disparities with esophageal cancer mortality at a high-volume university affiliated center: An All ACCESS Invitation, *Journal of the National Medical Association*, in press.
- (3) Mehta, Bella, S Ibrahim, WM Briggs, and P Efthimiou, 2019. Racial/Ethnic variations in morbidity and mortality in Adult Onset Still's Disease: An analysis of national dataset", *Seminars in Arthritis and Rheumatism*, doi: 10.1016/j.semarthrit.2019.04.0044.
- (4) Ivanov A, Dabiesingh DS, Bhumireddy GP, Mohamed A, Asfour A, Briggs WM, Ho J, Khan SA, Grossman A, Klem I, Sacchi TJ, Heitner JF. Prevalence and Prognostic Significance of Left Ventricular Noncompaction in Patients Referred for Cardiac Magnetic Resonance Imaging. *Circ Cardiovasc Imaging*. 2017 Sep;10(9). pii: e006174. doi: 10.1161/CIRCIMAGING.117.006174.
- (5) Ivanov A, Kaczowska BA, Khan SA, Ho J, Tavakol M, Prasad A, Bhumireddy G, Beall AF, Klem I, Mehta P, Briggs WM, fpaSacchi TJ, Heitner JF, 2017. Review and Analysis of Publication Trends over Three Decades in Three High Impact Medicine Journals. *PLoS One*. 2017 Jan 20;12(1):e0170056. doi: 10.1371/journal.pone.0170056.
- (6) A. Ivanova, G.P. Bhumireddy, D.S. Dabiesingh, S.A. Khana, J. Hoa N. Krishna, N. Dontineni, J.A Socolow, W.M. Briggs, I. Klem, T.J. Sacchi, J.F. Heitner, 2016. Importance of papillary muscle infarction detected by cardiac magnetic resonance imaging in predicting cardiovascular events. *International Journal of Cardiology*. Volume 220, 1 October 2016, Pages 558–563. PMID: 27390987.
- (7) A Ivanov, J Yossef, J Taillon, B Worku, I Gulkarov, A Tortolani, TJ Sacchi, WM Briggs, SJ Brener, JA Weingarten, JF Heitner, 2015. Do pulmonary function tests improve risk stratification before cardiothoracic surgery? *Journal of Thoracic and Cardiovascular Surgery*. 2015 Oct 30. pii: S0022-5223(15)02165-0. doi: 10.101. PMID: 26704058.
- (8) Chen O, Sharma A, Ahmad I, Bourji N, Nestoiter K, Hua P, Hua B, Ivanov A, Yossef J, Klem I, Briggs WM, Sacchi TJ, Heitner JF, 2015. Correlation between pericardial, mediastinal, and intrathoracic fat volumes with the presence and severity of coronary artery disease, metabolic syndrome, and cardiac risk factors. *Eur Heart J Cardiovasc Imaging*. 2015 Jan;16(1):37-46. doi: 10.1093/ehjci/jeu145.
- (9) Chery J, Semaan E, Darji S, Briggs W, Yarmush J, D'Ayala M, 2014. Impact of regional versus general anesthesia on the clinical outcomes of patients undergoing major lower extremity amputation. *Ann Vasc Surg*, 2014 Jul;28(5):1149-56. PMID: 24342828.
- (10) Visconti A, Gaeta T, Cabezon M, Briggs W, Pyle M., 2013. Focused Board Intervention (FBI): A Remediation Program for Written Board Preparation

- and the Medical Knowledge Core Competency. *J Grad Med Educ.* 2013 Sep;5(3):464-7. PMID: 24404311.
- (11) Annika Krystyna, D Kumari, R Tenney, R Kosanovic, T Safi, WM Briggs, K Hennessey, M Skelly, E Enriquez, J Lajeune, W Ghani and MD Schwalb, 2013. Hepatitis c antibody testing in African American and Hispanic men in New York City with prostate biopsy. *Oncology Discovery*, Vol 1. DOI: 10.7243/2052-6199-1-1.
 - (12) Ziad Y. Fayad, Elie Semaan, Bashar Fahoum, W. Matt Briggs, Anthony Tortolani, and Marcus D'Ayala, 2013. Aortic mural thrombus in the normal or minimally atherosclerotic aorta: A systematic review and meta-analysis of the available literature. *Ann Vasc Surg.*, Apr;27(3):282-90. DOI:10.1016/j.avsg.2012.03.011.
 - (13) Elizabeth Haines, Gerardo Chiricolo, Kresimir Aralica, William Briggs, Robert Van Amerongen, Andrew Laudenbach, Kevin O'Rourke, and Lawrence Melniker MD, 2012. Derivation of a Pediatric Growth Curve for Inferior Vena Caval Diameter in Healthy Pediatric Patients. *Crit Ultrasound J.* 2012 May 28;4(1):12. doi: 10.1186/2036-7902-4-12.
 - (14) Wei Li, Piotr Gorecki, Elie Semaan, William Briggs, Anthony J. Tortolani, Marcus D'Ayala, 2011. Concurrent Prophylactic Placement of Inferior Vena Cava Filter in gastric bypass and adjustable banding operations: An analysis of the Bariatric Outcomes Longitudinal Database (BOLD). *J. Vascular Surg.* 2012 Jun;55(6):1690-5. doi: 10.1016/j.jvs.2011.12.056.
 - (15) Krystyna A, Kosanovic R, Tenney R, Safi T, Briggs WM, et al. (2011) Colonoscopy Findings in Men with Transrectal Ultrasound Guided Prostate Biopsy: Association of Colonic Lipoma with Prostate Cancer. *J Cancer Sci Ther* S4:002. doi:10.4172/1948-5956.S4-002
 - (16) Birkhahn RH, Wen W, Datillo PA, Briggs WM, Parekh A, Arkun A, Byrd B, Gaeta TJ, 2012. Improving patient flow in acute coronary syndromes in the face of hospital crowding. *J Emerg Med.* 2012 Aug;43(2):356-65. PMID: 22015378.
 - (17) Birkhahn RH, Haines E, Wen W, Reddy L, Briggs WM, Datillo PA., 2011. Estimating the clinical impact of bringing a multimarker cardiac panel to the bedside in the ED. *Am J Emerg Med.* 2011 Mar;29(3):304-8.
 - (18) Krystyna A, Safi T, Briggs WM, Schwalb MD., 2011. Correlation of hepatitis C and prostate cancer, inverse correlation of basal cell hyperplasia or prostatitis and epidemic syphilis of unknown duration. *Int Braz J Urol.* 2011 Mar-Apr;37(2):223-9; discussion 230.
 - (19) Muniyappa R, Briggs WM, 2010. Limited Predictive Ability of Surrogate Indices of Insulin Sensitivity/Resistance in Asian Indian Men: A Calibration Model Analysis. *AJP - Endocrinology and Metabolism.* 299(6):E1106-12. PMID: 20943755.
 - (20) Birkhahn RH, Blomkalns A, Klausner H, Nowak R, Raja AS, Summers R, Weber JE, Briggs WM, Arkun A, Diercks D. The association between money and opinion in academic emergency medicine. *West J Emerg Med.* 2010 May;11(2):126-32. PMID: 20823958.
 - (21) Loizzo JJ, Peterson JC, Charlson ME, Wolf EJ, Altemus M, Briggs WM, Vahdat LT, Caputo TA, 2010. The effect of a contemplative self-healing

- program on quality of life in women with breast and gynecologic cancers. *Altern Ther Health Med.*, May-Jun;16(3):30-7. PMID: 20486622.
- (22) Krystyna A, Safi T, Briggs WM, Schwalb MD, 2010. Higher morbidity in prostate cancer patients after transrectal ultrasound guided prostate biopsy with 3-day oral ciprofloxacin prophylaxis, independent of number of cores. *Brazilian Journal of Urology.* Mar-Apr;37(2):223-9; discussion 230. PMID:21557839.
 - (23) Arkun A, Briggs WM, Patel S, Datillo PA, Bove J, Birkhahn RH, 2010. Emergency department crowding: factors influencing flow *West J Emerg Med.* Feb;11(1):10-5.PMID: 20411067.
 - (24) Li W, D'Ayala M, Hirshberg A, Briggs W, Wise L, Tortolani A, 2010. Comparison of conservative and operative treatment for blunt carotid injuries: analysis of the National Trauma Data Bank. *J Vasc Surg.* Mar;51(3):593-9, 599.e1-2.PMID: 20206804.
 - (25) D'Ayala M, Huzar T, Briggs W, Fahoum B, Wong S, Wise L, Tortolani A, 2010. Blood transfusion and its effect on the clinical outcomes of patients undergoing major lower extremity amputation. *Ann Vasc Surg.*, May;24(4):468-73. Epub 2009 Nov 8.PMID: 19900785.
 - (26) Tavakol M, Hassan KZ, Abdula RK, Briggs W, Oribabor CE, Tortolani AJ, Sacchi TJ, Lee LY, Heitner JF., 2009. Utility of brain natriuretic peptide as a predictor of atrial fibrillation after cardiac operations. *Ann Thorac Surg.* Sep;88(3):802-7.PMID: 19699901.
 - (27) Zandieh SO, Gershel JC, Briggs WM, Mancuso CA, Kuder JM., 2009. Re-visiting predictors of parental health care-seeking behaviors for nonurgent conditions at one inner-city hospital. *Pediatr Emerg Care.*, Apr;25(4):238-243.PMID: 19382324.
 - (28) Birkhahn RH, Blomkalns AL, Klausner HA, Nowak RM, Raja AS, Summers RL, Weber JE, Briggs WM, Arkun A, Diercks D., 2008. Academic emergency medicine faculty and industry relationships. *Acad Emerg Med.*, Sep;15(9):819-24.PMID: 19244632.
 - (29) Westermann H, Choi TN, Briggs WM, Charlson ME, Mancuso CA. Obesity and exercise habits of asthmatic patients. *Ann Allergy Asthma Immunol.* 2008 Nov;101(5):488-94. doi: 10.1016/S1081-1206(10)60287-6.
 - (30) Boutin-Foster C., Ogedegbe G., Peterson J., Briggs M., Allegrante J., Charlson ME., 2008. Psychosocial mediators of the relationship between race/ethnicity and depressive symptoms in Latino and white patients with coronary artery disease. *J. National Medical Association.* **100(7)**, 849-55. PMID: 18672563
 - (31) Charlson ME, Charlson RE, Marinopoulos S, McCulloch C, Briggs WM, Hollenberg J, 2008. The Charlson comorbidity index is adapted to predict costs of chronic disease in primary care patients. *J Clin Epidemiol.* Dec;61(12):1234-40. PMID: 18619805.
 - (32) Mancuso CA, Westermann H, Choi TN, Wenderoth S, Briggs WM, Charlson ME, 2008. Psychological and somatic symptoms in screening for depression in asthma patients. *J. Asthma.* **45(3)**, 221-5. PMID: 18415830.
 - (33) Ullery, BW, JC Peterson, FM, WM Briggs, LN Girardi, W Ko, AJ Tortolani, OW Isom, K Krieger, 2007. Cardiac Surgery in Nonagenarians:

- Should We or Shouldn't We? *Annals of Thoracic Surgery*. **85(3)**, 854-60. PMID: 18291156.
- (34) Mancuso, CA, T Choi, H Westermann, WM Briggs, S Wenderoth, 2007. Patient-reported and Physician-reported Depressive Conditions in Relation to Asthma Severity and Control. *Chest*. **133(5)**, 1142-8. PMID: 18263683.
 - (35) Rosenzweig JS, Van Deusen SK, Okpara O, Datillo PA, Briggs WM, Birkhahn RH, 2008. Authorship, collaboration, and predictors of extramural funding in the emergency medicine literature. *Am J Emerg Med*. **26(1)**, 5-9. PMID: 18082774.
 - (36) Westermann H, Choi TN, Briggs WM, Charlson ME, Mancuso CA, 2008. Obesity and exercise habits of asthmatic patients. *Ann Allergy Asthma Immunol*. Nov;101(5):488-94. PMID: 19055202.
 - (37) Hogle NJ, Briggs WM, Fowler DL, 2007. Documenting a learning curve and test-retest reliability of two tasks on a virtual reality training simulator in laparoscopic surgery. *J Surg Educ*. **64(6)**, 424-30. PMID: 18063281.
 - (38) D'Ayala, M, C Martone, R M Smith, WM Briggs, M Potouridis, J S Deitch, and L Wise, 2006. The effect of systemic anticoagulation in patients undergoing angioaccess surgery. *Annals of Vascular Surgery*. **22(1)**, 11-5. PMID: 18055171.
 - (39) Charlson ME, Peterson F, Krieger K, Hartman GS, Hollenberg J, Briggs WM, et al., 2007. Improvement of outcomes after coronary artery bypass II: a randomized trial comparing intraoperative high versus customized mean arterial pressure. *J. Cardiac Surgery*. **22(6)**, 465-72. PMID: 18039205.
 - (40) Charlson ME, Peterson F, Boutin-Foster C, Briggs WM, Ogedegbe G, McCulloch C, et al., 2008. Changing health behaviors to improve health outcomes after angioplasty: a randomized trial of net present value versus future value risk communication.. *Health Education Research*. **23(5)**, 826-39. PMID: 18025064.
 - (41) Charlson, M, Peterson J., Syat B, Briggs WM, Kline R, Dodd M, Murad V, Dione W, 2007. Outcomes of Community Based Social Service Interventions in Homebound Elders *Int. J. Geriatric Psychiatry*. **23(4)**, 427-32. PMID: 17918183.
 - (42) Hogle NJ, Briggs WM, Fowler DL. Documenting a learning curve and test-retest reliability of two tasks on a virtual reality training simulator in laparoscopic surgery. *J Surg Educ*. 2007 Nov-Dec;64(6):424-30. PMID: 18063281.
 - (43) Mancuso, CA, T Choi, H Westermann, WM Briggs, S Wenderoth, 2007. Measuring physical activity in asthma patients: two-minute walk test, repeated chair rise test, and self-reported energy expenditure. *J. Asthma*. **44(4)**, 333-40. PMID: 17530534.
 - (44) Charlson ME, Charlson RE, Briggs W, Hollenberg J, 2007. Can disease management target patients most likely to generate high costs? The impact of comorbidity. *J Gen Intern Med*. **22(4)**, 464-9. PMID: 17372794.
 - (45) Charlson ME, Boutin-Foster C, Mancuso CA, Peterson F, Ogedegbe G, Briggs WM, Robbins L, Isen A, Allegrante JP, 2006. Randomized Controlled Trials of Positive Affect and Self-affirmation to Facilitate Healthy

- Behaviors in Patients with Cardiopulmonary Diseases: Rationale, Trial Design, and Methods. *Contemporary Clinical Trials*. **28(6)**, 748-62. PMID: 17459784.
- (46) Charlson ME, Boutin-Foster C., Mancuso C., Ogedegbe G., Peterson J., Briggs M., Allegrante J., Robbins L., Isen A., 2007. Using positive affect and self affirmation to inform and to improve self management behaviors in cardiopulmonary patients: Design, rationale and methods. *Controlled Clinical Trials*. November 2007 (Vol. 28, Issue 6, Pages 748-762).
 - (47) Melniker LA, Leibner E, McKenney MG, Lopez P, Briggs WM, Mancuso CA., 2006. Randomized Controlled Clinical Trial of Point-of-Care, Limited Ultrasonography (PLUS) for Trauma in the Emergency Department: The First Sonography Outcomes Assessment Program (SOAP-1) Trial. *Annals of Emergency Medicine*. **48(3)**, 227-235. PMID: 16934640.
 - (48) Milling, TJ, C Holden, LA Melniker, WM Briggs, R Birkhahn, TJ Gaeta, 2006. Randomized controlled trial of single-operator vs. two-operator ultrasound guidance for internal jugular central venous cannulation. *Acad Emerg Med.*, **13(3)**, 245-7. PMID: 16495416.
 - (49) Milla F, Skubas N, Briggs WM, Girardi LN, Lee LY, Ko W, Tortolani AJ, Krieger KH, Isom OW, Mack CA, 2006. Epicardial beating heart cryoablation using a novel argon-based cryoclamp and linear probe. *J Thorac Cardiovasc Surg.*, **131(2)**, 403-11. PMID: 16434271.
 - (50) Birkhahn, SK Van Deusen, O Okpara, PA Datillo, WM Briggs, TJ Gaeta, 2006. Funding and publishing trends of original research by emergency medicine investigators over the past decade. *Annals of Emergency Medicine*, **13(1)**, 95-101. PMID: 16365335.
 - (51) Birkhahn, WM Briggs, PA Datillo, SK Van Deusen, TJ Gaeta, 2006. Classifying patients suspected of appendicitis with regard to likelihood. *American Journal of Surgery*, **191(4)**, 497-502. PMID: 16531143
 - (52) Charlson ME, Charlson RE, Briggs WM, Hollenberg J, 2006. Can disease management target patients most likely to generate high costs. *J. General Internal Medicine*. **22(4)**, 464-9.
 - (53) Milling, TJ, J Rose, WM Briggs, R Birkhahn, TJ Gaeta, JJ Bove, and LA Melniker, 2005. Randomized, controlled clinical trial of point-of-care limited ultrasonography assistance of central venous cannulation: the Third Sonography Outcomes Assessment Program (SOAP-3) Trial. *Crit Care Med*. **33(8)**, 1764-9. PMID: 16096454.
 - (54) Garfield JL, Birkhahn RH, Gaeta TJ, Briggs WM, 2004. Diagnostic Delays and Pathways on Route to Operative Intervention in Acute Appendicitis. *American Surgeon*. **70(11)**, 1010-1013. PMID: 15586517.
 - (55) Birkhahn RH, Gaeta TJ, Tloczkowski J, Mundy TA, Sharma M, Bove JJ, Briggs WM, 2003. Emergency medicine trained physicians are proficient in the insertion of transvenous pacemakers. *Annals of Emergency Medicine*. **43 (4)**, 469-474. PMID: 15039689.

3.1. Talks (I am years behind updating these).

- (1) Briggs, 2016. The Crisis Of Evidence: Probability & The Nature Of Cause. Institute of Statistical Science, Academia Sinica, Taipei, Taiwan.
- (2) Wei Li, Piotr Gorecki, Robert Autin, William Briggs, Elie Semaan, Anthony J. Tortolani, Marcus D'Ayala, 2011. Concurrent Prophylactic Placement of

- Inferior Vena Cava Filter (CPPOIVCF) in Gastric Bypass and Adjustable Banding Operations: An analysis of the Bariatric Outcomes Longitudinal Database. Eastern Vascular Society 25th Annual Meeting, 2011.
- (3) Wei Li, Jo Daniel, James Rucinski, Syed Gardezi, Piotr Gorecki, Paul Thodiyil, Bashar Fahoum, William Briggs, Leslie Wise, 2010. FACSFactors affecting patient disposition after ambulatory laparoscopic cholecystectomy (ALC) cheanalysis of the National Survey of Ambulatory Surgery (NSAS). American College of Surgeons.
 - (4) Wei Li, Marcus D'Ayala, et al., William Briggs, 2010. Coronary bypass and carotid endarterectomy (CEA): does a combined operative approach offer better outcome? - Outcome of different management strategies in patients with carotid stenosis undergoing coronary artery bypass grafting (CABG). Vascular Annual Meeting.
 - (5) Briggs, WM, 2007. On equi-probable priors, MAX ENT 2007, Saratoga Springs, NY.
 - (6) Briggs, WM, and RA Zaretski, 2006. On producing probability forecasts (from ensembles). 18th Conf. on Probability and Statistics in the Atmospheric Sciences, Atlanta, GA, Amer. Meteor. Soc.
 - (7) Briggs, WM, and RA Zaretski, 2006. Improvements on the ROC Curve: Skill Plots for Forecast Evaluation. *Invited*. Joint Research Conference on Statistics in Quality Industry and Technology, Knoxville, TN.
 - (8) Briggs, WM, and RA Zaretski, 2005. Skill Curves and ROC Curves for Diagnoses, or Why Skill Curves are More Fun. Joint Statistical Meetings, American Stat. Soc., Minneapolis, MN.
 - (9) Briggs W.M., 2005. On the optimal combination of probabilistic forecasts to maximize skill. *International Symposium on Forecasting* San Antonio, TX. International Institute of Forecasters.
 - (10) Briggs, WM, and D Ruppert, 2004. Assessing the skill of yes/no forecasts for Markov observations. 17th Conf. on Probability and Statistics in the Atmospheric Sciences, Seattle, WA, Amer. Meteor. Soc.
 - (11) Melniker, L, E Liebner, B Tiffany, P Lopez, WM Briggs, M McKenney, 2004. Randomized clinical trial of point-of-care limited ultrasonography (PLUS) for trauma in the emergency department. *Annals of Emergency Medicine*, **44**.
 - (12) Birkhahn RH, Gaeta TJ, Van Deusen SK, Briggs WM, 2004. Classifying patients suspected of appendicitis with regard to likelihood. *Annals of Emergency Medicine*, **44** (4): S17-S17 51 Suppl. S.
 - (13) Zandieh, SO, WM Briggs, JM Kuder, and CA Mancuso, 2004. Negative perceptions of health care among caregivers of children auto-assigned to a Medicaid managed care health plan. Ambulatory Pediatric Association Meeting, San Francisco, CA; and National Research Service Award Trainees Conference, San Diego, CA.
 - (14) Melniker, L, E Liebner, B Tiffany, P Lopez, M Sharma, WM Briggs, M McKenney, 2003. Cost Analysis of Point-of-care, Limited Ultrasonography (PLUS) in Trauma Patients: The Sonography Outcomes Assessment Program (SOAP)-1 Trial. *Academic Emergency Medicine*, **11**, 568.

- (15) Melniker, LA, WM Briggs, and CA Mancuso, 2003. Including comorbidity in the assessment of trauma patients: a revision of the trauma injury severity score. *J. Clin Epidemiology*, Sep., **56(9)**, 921. PMID: 14505784.
- (16) Briggs, WM, and RA Levine, 1998. Comparison of forecasts using the bootstrap. 14th Conf. on Probability and Statistics in the Atmospheric Sciences Phoenix, AZ, Amer. Meteor. Soc., 1-4.
- (17) Briggs, WM, and R Zaretzki, 1998. The effect of randomly spaced observations on field forecast error scores. 14th Conf. on Probability and Statistics in the Atmospheric Sciences Phoenix, AZ, Amer. Meteor. Soc., 5-8.
- (18) Briggs, WM, and RA Levine, 1996. Wavelets and image comparison: new approaches to field forecast verification. 13th Conf. on Probability and Statistics in the Atmospheric Sciences, San Francisco, CA, Amer. Meteor. Soc., 274-277.
- (19) Briggs, WM, and DS Wilks, 1996. Modifying parameters of a daily stochastic weather generator using long-range forecasts. 13th Conf. on Probability and Statistics in the Atmospheric Sciences, San Francisco, CA, Amer. Meteor. Soc., 243-2246.